

CLAIMS

1. A hard disk drive (HDD) control apparatus,
comprising:

5 a means for connecting the HDD control
apparatus to a navigation system;

a means for connecting the HDD control
apparatus to an HDD;

a means for connecting the HDD control
apparatus to a second system;

10 a decompression unit that decompresses
data read from the HDD and transmits the resultant data
to the second system; and

a control unit that writes or reads data
in or from the HDD in response to a command sent from the
15 navigation system, that reads data from the HDD in
response to a command sent from the second system, and
instructs the decompression unit to decompress the data
and transmit the resultant data to the second system, and
that when the command to access the HDD is issued
20 concurrently from the navigation system and the second
system alike, arbitrates the commands through time
sharing.

2. The HDD control apparatus according to Claim 1,
further comprising a compression unit that compresses
25 received data and transmits the resultant data to the
HDD, wherein:

in response to a command sent from the
second system, the control unit instructs the compression
unit to compress received data and write the resultant
30 data in the HDD.

3. The HDD control apparatus according to Claim 1,
wherein the means for connecting the HDD control
apparatus to the navigation system is an AT attachment
(ATA) interface, and a command to leave the ATA interface
35 unoccupied is adopted as the command sent from the second
system.

4. The HDD control apparatus according to Claim 1,

wherein the means for connecting the HDD control apparatus to the navigation system is an ATA interface, and the means for connecting the HDD control apparatus to the second system is an interface different from the ATA interface.

5 5. The HDD control apparatus according to Claim 1, further comprising a memory unit interface, wherein:

 the control unit controls the data transfer between a memory and the HDD.

10 6. The HDD control apparatus according to Claim 5, wherein an interface via which the navigation system accesses a memory unit is an ATA interface.

 7. The HDD control apparatus according to Claim 5, wherein a plurality of memory unit interfaces is included, the control unit selects one of the memory unit interfaces, and instructs the selected interface, via which the navigation system accesses a specific memory unit, to function as a slave of an ATA interface.

15 8. The HDD control apparatus according to Claim 1, further comprising peripherals so as to permit addition of user interfaces.

 9. The HDD control apparatus according to Claim 1, wherein software, based on which the control unit acts, is stored in a flash ROM.

20 10. The HDD control apparatus according to Claim 1, wherein the HDD is a general-purpose HDD, and the means for connecting the HDD control apparatus to the HDD is an ATA interface.

25 11. A hard disk drive (HDD) control apparatus, comprising:

 a means for connecting the HDD control apparatus to a navigation system;

 a means for connecting the HDD control apparatus to an HDD;

30 a means for connecting the HDD control apparatus to an audiovisual (AV) system;

 a decompression unit that decompresses

data read from the HDD, and transmits the resultant data to the AV system;

5 a control unit that writes or reads data in or from the HDD in response to a command sent from the navigation system, that reads data from the HDD in response to a command sent from the AV system, and instructs the decompression unit to decompress the data and transmit the data to the AV system, and that when the command to read data from the HDD is issued concurrently
10 from the navigation system and AV system alike, suspends reading of data concerning the navigation system and reads compressed data concerning the AV system.

12. The HDD control apparatus according to Claim 11, further comprising a compression unit that compresses
15 received data and transmits the resultant data to the HDD, wherein:

in response to a command sent from the AV system, the control unit instructs the compression unit to compress received data and write the resultant data in
20 the HDD.

13. The HDD control apparatus according to Claim 11, further comprising a buffer RAM in which the compressed data concerning the AV system which is read from the HDD is stored, wherein:

25 when an amount of compressed data remaining in the buffer RAM becomes equal to or smaller than a certain value, the control unit reads compressed data from the HDD and writes the data in the buffer RAM.